

## **AMENDMENTS TO THE CLAIMS**

This listing of claims replaces all prior versions and listings of claims in the application:

1. (ORIGINAL) A composition formed in a fluorescence quench-based homogenous assay for enzymatic activity comprising
  - a paramagnetic metal ion and
  - a substrate for an enzyme or an enzymatic endproduct resulting from reaction of the enzyme with the substrate, the substrate or endproduct containing
    - a fluorophore label and
    - containing a target group to which the paramagnetic metal ion is bound to form a complex of the target and ion,said complex being in proximity to the fluorophore to cause the specific quenching of the fluorescence of the label when the complex forms.
2. (ORIGINAL) The composition of claim 1 wherein the target group is a phosphoryl group.
3. (ORIGINAL) The composition of claim 1 wherein the target group is an imidazole group.
4. (ORIGINAL) The composition of claim 1 wherein the paramagnetic metal ion is Fe (II).
5. (ORIGINAL) The composition of claim 1 wherein the paramagnetic metal ion is Ni (II).
6. (ORIGINAL) The composition of claim 2 wherein the paramagnetic metal ion is Fe (III).
7. (ORIGINAL) The composition of claim 3 wherein the paramagnetic metal ion is Ni (II).
8. (ORIGINAL) The composition of claim 1 wherein the substrate or endproduct contains a single fluorophore label which is the only dye entity attached thereto.
9. (ORIGINAL) The composition of claim 6 wherein the substrate or endproduct contains a single fluorophore label which is the only dye entity attached thereto
10. (ORIGINAL) The composition of claim 7 wherein the substrate or endproduct contains a single fluorophore label which is the only dye entity attached thereto.
11. (CURRENTLY AMENDED) The composition of claim 1 wherein the paramagnetic metal ion, in addition to being bound to [[be]] the target group, is coordinated with a chelator.

12. (CURRENTLY AMENDED) The composition of claim 6 wherein the paramagnetic metal ion, in addition to being bound to [[be]] the target group, is coordinated with a chelator.

13. (CURRENTLY AMENDED) The composition of claim 7 wherein the paramagnetic metal ion, in addition to being bound to [[be]] the target group, is coordinated with a chelator.

14. (CURRENTLY AMENDED) A method for assaying the activity of an enzyme comprising  
by contacting the an enzyme or endproduct resulting from reaction of an enzyme with the substrate  
with a population of fluorophore labeled substrate in an aqueous enzymatic reaction mixture,  
allowing the enzymatic reaction to proceed,  
contacting this reaction mixture with a paramagnetic metal ion to form a complex of the  
paramagnetic metal ion with a target group, said complex when in proximity to the fluorophore causing the  
specific quenching of the fluorescence from the fluorophore,  
measuring the intensity of the observed fluorescent emission from the mixture,  
relating the observed fluorescence from the mixture to that of an external reference, and  
ascribing a differential fluorescent signal, if any, between the two, the ascribed differential fluorescent  
signal of the sample being indicative of the final state of the fluorophore labeled substrate population after  
enzymatic reaction, and in turn an indicator of enzymatic activity.

15. (ORIGINAL) The method of claim 14 wherein the enzyme whose activity is being assayed is a kinase.

16. (ORIGINAL) The method of claim 14 wherein the enzyme whose activity is being assayed is a  
phosphatase.

17. (ORIGINAL) The method of claim 15 wherein the paramagnetic metal ion is Fe (III) and the target group  
is a phosphoryl group.

18. (ORIGINAL) The method of claim 16 wherein the paramagnetic metal ion is Fe (III) and the target group  
is a phosphoryl group.

19. (ORIGINAL) The method of claim 14 wherein the substrate or endproduct contains a single fluorophore  
label which is the only dye entity attached thereto.

20. (ORIGINAL) The method of claim 15 wherein the substrate or endproduct contains a single fluorophore  
label which is the only dye entity attached thereto.

21. (ORIGINAL) The method of claim 16 wherein the substrate or endproduct contains a single fluorophore label which is the only dye entity attached thereto.

22. (CURRENTLY AMENDED) The method of claim 14 wherein the paramagnetic metal ion, in addition to being bound to [[be]] the target group, is coordinated with a chelator.

23. (ORIGINAL) A kit comprising a paramagnetic metal ion and an instruction booklet referencing and/or describing the manner in which the assay can be accomplished with respect to one or more enzymes as set forth herein.

24. (ORIGINAL) The kit of claim 23, further including a synthetic calibrator.